



CASE STUDY

The Hotel Roanoke

Located in the midst of the Blue Ridge Mountains, The Hotel Roanoke & Conference Center is a 322-room vintage 1882 hotel that has been restored to its 19th-century elegance and is listed in the national Register of Historic Places.

HVAC and Lighting

Current Initiatives: energy management system for all HVAC systems; efficient HVAC using natural gas; use of skylights/natural lighting design; use of lighting sensors and high efficiency compact fluorescents; EnergyStar computers and refrigerators; use of directional lighting in parking areas and outdoors (non-dome lights that do not cause energy-wasting light pollution).



Opportunity: install interior or exterior storm windows (made of glass or Plexiglas) for all single pane windows with an estimated savings: up to 15% on heating and cooling expenditures.

Water Use and Laundry

Current Initiatives: low-flow faucet aerators and showerheads in rooms; sensors on faucets/toilets in public areas; low-flow toilets in approximately 25% of rooms; dishwashers that re-circulate water; preventive maintenance of drips/leaks; sidewalks and entryways are swept instead of hosed; water efficient washers with reuse of filter washwater; energy-efficient dryers; using proper amount of bleaches for laundry; linen segregation using gentle cycles for lightly soiled laundry.

Opportunity: replace older toilets in remaining 240-rooms with 1.6 gallons per flush models, which would yield annual savings of 249,660 gallons and \$942 dollars.

Maintenance and Housekeeping

Current Initiatives: preventive maintenance of all vehicles/equipment; inventory tracking so that oldest products are used first; eliminating use of aerosols; attempts to use less toxic materials; use of latex paints; minimizing use of HVAC/cooling tower chemicals through magnetic or ionic-flux mechanisms; reusing cooling tower water as much as possible; effective systems of storage, labeling, and handling of products; using low mercury fluorescent tube bulbs and starting to recycle the spent bulbs.

Purchasing and Front Office

Current Initiatives: purchase of recycled content paper; purchase of durable/well-made products with long life; purchase of energy-efficient equipment; policies for 2-sided copying/printing; extensive use of electronic documents/records; purchasing from vendors/service providers with commitment to the environment; utilizing purchasing power to prescribe minimized packaging wastes (shrink-wrapping, excessive

packaging) or requiring that vendors take back packaging; carpets with recycled content and no-VOC's; fabrics for furniture and wallpaper with no-VOC's, use of some reused building materials; use of vintage flooring/beams, stonework, and light fixtures.

Opportunity: purchase facial tissue, paper towels, and bath tissue with recycled content.

- Switching to a minimum 20% postconsumer content bath tissue, The Hotel Roanoke would save 0.88 tons of virgin paper, 10.6 trees, 3,608 kWh of electricity, 6,160 gallons of water and 52.8 pounds of air pollutants per year.
- Switching to a minimum 10% postconsumer content facial tissue, The Hotel Roanoke would save 0.44 tons of virgin paper, 5.3 trees, 1,804 kWh of electricity, 3,080 gallons of water and 26.4 pounds of air pollutants per year.

Rooms

Current Initiatives: optional linen service for multiple night guests; reusable glasses/mugs provided in rooms; efficient HVAC with individual thermostats; optional free newspapers.

Landscaping

Current Initiatives: use of integrated pest management, organic fertilizers and efficiently timed applications; use of native vegetation; abundance of indoor plants.

Water Savings Calculation for Hotel Roanoke:

- 240-rooms with 3-½ gallons per flush toilets
- Assuming 75% average annual occupancy and two flushes per day per occupied room,
 $240\text{-rooms} \times 365\text{ nights} \times 0.75\text{ occupancy} = 65,700\text{ room nights per year} \times 2\text{ flushes} @ 3.5\text{ gallons per flush} = 459,900\text{ gallons per year}$

Replacing with 1.6 gallons per flush toilets would mean annual use of 210,240 gallons, a savings of 249,660 gallons per year, 249,660 gallons is 333 HCF (100 cubic feet of water equals 750 gallons). At \$1.21 per HCF for water and \$1.62 per HCF for sewer rates, \$942 dollars would be saved annually.

Tissue Savings Calculations for Hotel Roanoke:

- Assuming 75% annual average occupancy, $322\text{-rooms} \times 365\text{-nights} \times 0.75\text{ occupancy} = 88,147\text{ room nights per year}$.
 - Assume 1-roll bath tissue consumed every 4-room nights and 1-box facial tissue consumed every 4-room nights = 22,037 rolls bath tissue and 22,037 boxes facial tissue
 $22,037\text{ rolls bath tissue} \times 0.40\text{ lbs./roll} = 8815\text{ lbs.} = 4.4\text{ tons of bath tissue used per year}$
 $22,037\text{ boxes facial tissue} \times 0.40\text{ lbs./box} = 8815\text{ lbs.} = 4.4\text{ tons of facial tissue used per year}$
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This report was developed by Green Seal, Inc., a non-profit organization that strives to achieve a healthier and cleaner environment by identifying and promoting products and services that cause less toxic pollution and waste, conserve resources and habitats, and minimize global warming and ozone depletion. Green Seal conducted "pollution prevention opportunity assessments" at 4 hospitality facilities in Virginia in support of Virginia's *environmentalLodging* initiative. For more information, access Green Seal at <http://www.greenseal.org/index.html>.

For more information on The Hotel Roanoke, www.hotelroanoke.com.

For more information on Virginia's *EnvironmentalLodging* initiative contact:

Tom Griffin, Outreach Coordinator

VA DEQ Office of Pollution Prevention

629 East Main Street

Richmond, VA 23219

804-698-4362; rtgriffin@deq.virginia.gov

<http://www.deq.virginia.gov/p2/lodging>